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REMARKS

Claims 1-22 are pending. By this Amendment, claims 1, 8 and 15 are amended, and new claims 38-52 are added. The amendments to the claims and the new claims contain no new matter. Support for the new claims can be found throughout the application and, for example, at page 3, line 19-page 5, line 7; page 9, line 28-page 11, line 18; page 13, line 26-page 14, line 16; page 15, lines 27-31; page 17, lines 6-28; page 23, lines 16-30; page 24, line 1-page 25, line 2; page 26, lines 6-20; and in the claims as originally filed.

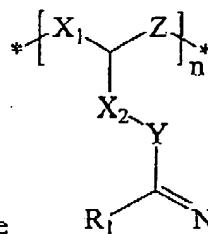
Rejection Under 35 U.S.C. §102(b); Alternatively Under 35 U.S.C. §103(a)


The Examiner rejected claims 1, 3-8, 10-15, and 17-22 under 35 U.S.C. §102(b) as anticipated by, or in the alternative, under 35 U.S.C. §103(a) as obvious under U.S. Patent 5,547,790 to Umeda et al. ("Umeda"). The Examiner asserted that Umeda discloses an organophotoreceptor with the desired charge transport material (Col. 11, Col. 21-22, and claims). This rejection is respectfully traversed.

To anticipate a claim, each and every element as set forth in the claim must be found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). MPEP § 2131.

The charge transport materials shown in column 11 of the Umeda patent do not describe the charge transport material noted in independent claims 1, 8, 15, or new independent claims 38, 43, or 48. For instance, Formulation B in Example 1 is not a hydrazone or polyhydrazone. The structure in Example 2 does not set forth each and every element of claim 1, 8, or 15, as amended, or new independent claims 38, 43 or 48. The charge transport material of claims 1, 8,

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15, 38, 43, and 48 comprises a polymer having the structure . The value for Y in the charge transport material comprises a bond or an arylamine group. However, the structure in Example 2 shows the Y position held by an aromatic structure, not an arylamine group. Hence, the structure of Example 2 does not disclose each and every element of independent claims 1, 8, or 15, as amended, or new independent claims 38, 43, or 48.

Further, in columns 21 and 22 of Umeda, the structure of the charge transporting material in Comparative Example 8 is not a hydrazone or polyhydrazone. The charge transport materials shown in Example 13 and Example 14 (Formulations (L) and (M)) do not disclose each and every element of the charge transport material noted in independent claims 1, 8, or 15, as amended, or in new independent claims 38, 43, or 48. For example, the hydrazone structures in columns 21 and 22 of Umeda do not disclose a charge transport material comprising the structure in independent claims 1, 8, or 15, wherein the Z position is taken by O, S, or NR₄. In the structures provided in Umeda, an ethyl moiety is attached to the nitrogen atom of the carbazoyl group and is repeating. There is no disclosure or suggestion of any substitutions in the repeating ethyl moiety. Further, the hydrazone structures in columns 21 and 22 of Umeda do not disclose a charge transport material comprising the structure in independent claims 38, 43, or 48, wherein the R₁ (R₁-C=N) position is taken by an alkyl group, an alkenyl group, an alkynyl group, an aromatic group, or a heterocyclic group, and not an H atom.

Hence the structures provided in columns 21 and 22 of Umeda do not disclose each and every element of independent claims 1, 8 or 15, as amended, or new independent claims 38, 43 or 48. Hence, independent claims 1, 8 and 15 are not anticipated. Claims 3-7, 10-14, and 17-22 depend from either independent claim 1, 8 or 15, and include all of the limitations of the

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respective independent claim. Because claims 3-7, 10-14, and 17-22 include all of the limitations of the respective independent claims, claims 3-7, 10-14, and 17-22 are also not anticipated. Reconsideration and withdrawal of the rejection of claims 1, 3-8, 10-15, and 17-22 under 35 U.S.C. §102(b) are respectfully requested. Further, claims 39-42, 44-47, and 49-52 depend from either independent claim 38, 43 or 48, and include all of the limitations of the respective independent claim. Because claims 39-42, 44-47, and 49-52 include all of the limitations of the respective independent claims, claims 39-42, 44-47, and 49-52 are also not anticipated.

Further, the claims of Umeda do not disclose each and every element of independent claims 1, 8, 15, as amended, or new independent claims 38, 43 or 48. As admitted, the Umeda claims provide no specific structure for a charge transport material, but, instead, note a wide array of chemicals that can be used as a charge transport material. The charge transport materials noted in the independent claims of Applicants' application are not disclosed and are not enabled by Umeda. Therefore, the claims of Umeda do not anticipate and do not make obvious Applicants' claims.

The Examiner asserted in the alternative, that although Umeda suggests substitution of the charge transport material, every permutation is not disclosed. The Examiner asserted that it would have been obvious to one skilled in the art to use well known substitutions consistent with charge transport material of the disclosed prior art because of the direct suggestion of Umeda and the expectation of similar results of known charge transport materials. This rejection is respectfully traversed.

To establish a *prima facie* case of obviousness, three basic criteria must be met; there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; there must be reasonable expectation of success; and the prior art reference

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(or references, when combined) must teach or suggest all the claim limitations. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). MPEP §2142.

Umeda does not disclose a generic formula for a hydrazone-based charge transport material, but instead provides a number of exemplary embodiments. In these embodiments, the moiety attached to the aromatic group or arylamine group of the hydrazone is ethyl, which is repeated. This structure is repeated in Example 13, and in Example 14 Formulations (L) and (M). There is no motivation or suggestion provided to alter this part of the overall structure of the hydrazone. The Examiner asserted that it would have been obvious to one skilled in the art to use well known substitutions consistent with charge transport material of the disclosed prior art. However, the Examiner has not provided evidence of the asserted "well known substitutions" consistent with the charge transport material of the disclosed prior art and has not demonstrated that it would have been obvious to use any such "well known substitutions" to obtain the claimed invention. Umeda does not disclose or make such substitution suggestions. No motivation has been provided for a skilled artisan to make the claimed invention. The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999). As the level of skill in the art cannot be relied upon to provide the suggestion to combine references, it is doubtful that the level of skill in the art can be relied upon to provide the suggestion to make the substitutions to obtain the claimed invention, when no combinable prior art has been provided.

As noted above, Umeda does not disclose each and every element of independent claims 1, 8, 15, 38, 43 or 48. Further, no evidence has been provided as to the motivation or suggestion to alter the structures disclosed in Umeda to make the claimed invention. Hence, a case of *prima facie* obviousness has not been established. Further, Umeda does not disclose each and every element of independent claims 1, 8, and 15, as amended, or new independent claims 38, 43 and 48. Claims 3-7, 10-14, and 17-22 depend from independent claims 1, 8 and 15, respectively, and

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are therefore also nonobvious. Claims 39-42, 44-47, and 49-52 depend from independent claims 38, 43 and 48, respectively, and are therefore also nonobvious. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Reconsideration and withdrawal of the rejection of claims 1, 3-8, 10-15, and 17-22 under 35 U.S.C. §103(a) are respectfully requested.

Rejection Under 35 U.S.C. §103(a)

The Examiner rejected claims 2, 9, and 16 under 35 U.S.C. 103(a) as unpatentable over Umeda as applied to claims 1, 3-8, 10-15, and 17-22, in view of U.S. Patent No. 5,750,296 to Kim et al. The Examiner conceded that Umeda does not disclose the specific carbazoyl or arylamine substitution of the claimed charge transport materials. However, the Examiner asserted that Kim discloses a similar organophotoreceptor with charge transport materials that contain carbazoyl or arylamine substitution (Claim 2). The Examiner asserted that it would have been obvious to use well known substitutions by Kim consistent with charge transport material taught by Umeda because of the direct suggestion of Umeda and Kim and the expectation of similar results of known substituted charge transport materials. This rejection is respectfully traversed.

The structural formula (1) of Kim includes R₁ wherein R₁ can be a 9-alkyl carbazole group. In particular, claim 2 specifies a 9-ethyl-3-carbazolecarboxaldehyde N,N-diphenylhydrazone. Kim does not disclose a repeating group attached to the arylamine. Further, Kim discloses only an alkyl on the carbazole group, and the example provided in claim 2 is ethyl at the 9 position of the carbazole. Kim does not teach, motivate or suggest a repeating group on the arylamine and also does not disclose other than an alkyl on the carbazole; an O atom, S atom, or NR (the "Z" position) are not disclosed. Kim does not compensate for the deficiencies found

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in Umeda. Hence, the combination of Umeda and Kim does not teach each and every element of independent claims 1, 8 or 15, as amended, or new independent claims 38, 43 or 48.

Independent claims 1, 8, 15, 38, 43 and 48 all note the same structural formula for the charge transport material. Because Umeda combined with Kim does not teach each and every element of independent claims 1, 8, or 15 as amended, claims 1, 8, and 15 are nonobvious. Further, Umeda combined with Kim does not teach each and every element of new independent claims 38, 43 or 48, and therefore claims 38, 43 and 48 are also nonobvious. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837, F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore claims 2, 9, and 16, as well as claims 39-42, 44-47 and 49-52 are also nonobvious. Reconsideration and withdrawal of the rejection of claims 2, 9, and 16 under 35 U.S.C. §103(a) are respectfully requested.

Conclusion

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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